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PA - (TOKE) TOSHIBA KK

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AB - JP03197640 Ta raw material is reacted with iodine so that only pure Ta
forms TaI₅ at 300-700 deg.C, then TaI₅ is decomposed to Ta and 5/2 I₂
at 800-1,500 deg.C, and Ta is further refined by electron beam
melting. The Ta includes 0 below 50 ppm and Fe, Ni and Cr in amts.
less than 0.05 ppm respectively.

- (Dwg.0/3)

IW - HIGH PURE TANTALUM PRODUCE REACT RAW TANTALUM MATERIAL IODINE
DECOMPOSE TANTALUM IODIDE FORMING ELECTRON BEAM MELT TANTALUM OBTAIN

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NC - 001

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PAW - (TOKE) TOSHIBA KK

TI - High purity tantalum prodn. - by reacting raw tantalum material with
iodine, decomposing tantalum iodide formed and electron beam melting
tantalum obtd.

EUROPEAN PATENT OFFICE

Patent Abstracts of Japan

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APPLICANT : TOSHIBA CORP;

INVENTOR : KOBANAWA YOSHIKO;

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TITLE : HIGH PURITY TANTALUM MATERIAL AND ITS PRODUCTION AND TANTALUM
TARGET USING THE SAME

ABSTRACT : PURPOSE: To provide a high purity Ta material usable for semiconductor device by
melting Ta refined by an iodide decomposition method in high vacuum.

CONSTITUTION: Ta is refined by an iodide decomposition method. This Ta is melted in
high vacuum of $\leq 5 \times 10^{-5}$ mbar, by which a high purity Ta material in which
oxygen content is regulated to ≤ 50 ppm and also the contents of Fe, Ni, and Cr are
regulated to ≤ 0.05 ppm, respectively, is obtained. If the Ta refined by an iodide
decomposition method is further refined by an electron beam melting method, a high purity
Ta ingot minimal in contamination with oxygen and nitrogen can be prepared. By using
this Ta material, a Ta target of arbitrary shape can be produced.

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